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Patent
Serial No. 10/575,797
Appeal Brief in Reply to the Final Office Action of July 07, 2009

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By Michael E. Belk
(Signature)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application Of Atty. Docket: GB030187US1
EMIEL PEETERS et. al. Confirmation No. 3902
Serial No. 10/575,797 Group Art Unit: 2854
Filed: April 13, 2006 Examiner: Banh, D.H.
Title: Elastomeric Stamp, Patterning Method Using Such A Stamp
And Method For Producing Such A Stamp

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APPEAL BRIEF

Sir:

Appellants herewith respectfully present a Brief on Appeal as follows:

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REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

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RELATED APPEALS AND INTERFERENCES

Appellants and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

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STATUS OF CLAIMS

Claims 1-5, 7-20 and 22-23 are pending in this application. Claims 6 and 21 are canceled. Claims 2-5 and 8-20 are withdrawn. Claims 1, 7, 22 and 23 are rejected in the Final Office Action mailed on July 07, 2009. Claims 1, 7, 22 and 23 are the subject of this appeal.

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STATUS OF AMENDMENTS

Appellants did not file a Response to a Final Office Action mailed July 07, 2009. This Appeal Brief is in response to the Final Office Action mailed July 07, 2009, that finally rejected claims 1, 7, 22 and 23.

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SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claim 1, shown in FIG 1b, and described on page 8, lines 9 to 22 of the specification, is directed to an elastomeric stamp (10) for printing a pattern on a substrate (500,502) with an ink (520), the stamp (10) comprising: a first surface (12) in a first plane for contacting the substrate, a second surface (14) in a second plane, a third surface (16) extending from the first surface (12) to the second surface (14), the third surface (16) being permeable to the ink (520), and a barrier layer (22) substantially impermeable to the ink, wherein the barrier layer (22) is on the first surface (12) and not on the second surface (16).

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GROUNDΣ OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1 of U.S. Patent Application Serial No. 10/575,797 are anticipated under 35 U.S.C. §102(e) by U.S. Patent Publication 2004/0121568 (Kim). For purposes of this appeal, claims 7 and 22 stand or fall with claim 1.

Whether claims 22 of U.S. Patent Application Serial No. 10/575,797 is unpatentable under 35 U.S.C. §103(a) over Kim in view of a per se rule that "it is not inventive to discover optimum ranges or workable ranges through routine experimentation."

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ARGUMENT

Claim 1

With regard to the rejection of claims 1, under 35 U.S.C. §102(e) for being anticipated by U.S. Patent Publication 2004/0121568 (Kim), anticipation requires that every element of the rejected claim be disclosed in a single prior art citation. Kim does not disclose the element "the third surface being permeable to the ink" as recited in claim 1.

In the final Office Action (on page 2 last para.) the examiner suggests that in figure 12 of Kim, the first surface is "the surface of protrusion 5", the second wall is "the back of the stamp", and the third surface is "the right wall side extending between the two, and that "wherein the third surface is permeable to ink" is disclosed at "(paragraph 99, the entire device being made of a soft elastic material, being preferably PDMS)".

In Kim the stamp is used for applying metal layer 2 onto a substrate. Kim does not suggest applying an ink. Furthermore, there is no suggesting in Kim that the soft elastic material of the third surface should be selected that is "permeable to the ink". Kim fails to disclose all the elements of claim 1.

Claim 23

Whether claims 22 of U.S. Patent Application Serial No. 10/575,797 is unpatentable under 35 U.S.C. §103(a) over Kim in view of a per se rule that "it is not inventive to discover optimum

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ranges or workable ranges through routine experimentation."

First, there is no per se rule that "it is not inventive to discover optimum ranges or workable ranges through routine experimentation."

There is no evidence that those skilled in the art would know that they should experiment to determine the optimum relationship between the diffusion coefficient of ink in the barrier layer and the diffusion coefficient of ink in the first material. Also, Kim does not suggest that those skilled in the art should experiment to determine the optimum relationship between the diffusion coefficient of ink in the barrier layer and the diffusion coefficient of ink in the first material.

In addition, Appellants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, Appellant reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

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CONCLUSION

Claims 1, 7 and 22-23 are patentable over Kim. Thus, the Examiner's rejections of claims 1, 7 and 22-23 should be reversed.

Please charge any fee deficiencies and credit any overpayments to Deposit Account No. 14-1270.

Respectfully submitted,

By Michael E. Belk
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CLAIMS APPENDIX

1. (previously presented) An elastomeric stamp for printing a pattern on a substrate with an ink the stamp being at least partially formed from a first material, the stamp comprising:

a first surface in a first plane for contacting the substrate,

a second surface in a second plane,

a third surface extending from the first surface to the second surface, the third surface being permeable to the ink, and

a barrier layer substantially impermeable to the ink, wherein the barrier layer is on the first surface and not on the second surface.

2. (Withdrawn) The elastomeric stamp as claimed in claim 1, wherein the barrier layer is non-covalently bound to the first surface.

3. (Withdrawn) The elastomeric stamp as claimed in claim 1, wherein the first barrier layer comprises an inorganic oxide.

4. (Withdrawn) The elastomeric stamp as claimed in claim 1, wherein the first barrier layer comprises a polymer material.

5. (Withdrawn) The elastomeric stamp as claimed in claim 1, wherein the first barrier layer comprises the first material in a modified form.

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Claim 6 (Canceled)

7. (previously presented) The elastomeric stamp as claimed in claim 1, wherein the first surface and the third surface form an acute angle larger than 60° and less than 90°.

8. (Withdrawn) The elastomeric stamp as claimed in claim 6, wherein the further barrier layer is of the same material as the barrier layer.

9. (Withdrawn) A method for printing an ink in a pattern on a substrate of an electronic device using an elastomeric stamp, the elastomeric stamp being at least partially formed from a first material, the elastomeric stamp comprising a first surface in a first plane, a second surface in a second plane and a third surface extending from the first surface to the second surface, the third surface being permeable to the ink, the first surface comprising a barrier layer being substantially impermeable to the ink, the method comprising the acts of:

bringing the elastomeric stamp into contact with a supply of an ink solution;

absorbing the ink solution in the first material;

cleaning at least the barrier layer of the elastomeric stamp;

drying the elastomeric stamp; and

forming at least a part of the pattern by placing the elastomeric stamp on the substrate with the barrier layer contacting the substrate and transferring the ink from the first

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material to the substrate via the third surface.

10. (Withdrawn) The method as claimed in claim 9, wherein the act of cleaning at least the barrier layer of the elastomeric stamp comprises rinsing the elastomeric stamp with a solvent.

11. (Withdrawn) A method of producing a patterned elastomeric stamp for printing an ink on a substrate of an electronic device, the method comprising the acts of:

providing a master having a first surface in a first plane, a second surface in a second plane and a third surface extending from the first surface to the second surface;

depositing a first material precursor on said surfaces of the master;

generating an elastomeric stamp having a first surface in a first plane, a second surface in a second plane and a third surface extending from the first surface to the second surface by transforming the first material precursor to a first material, said surfaces of the elastomeric stamp being permeable to the ink; and

forming a barrier layer on the first surface of the elastomeric stamp the barrier layer being impermeable to the ink.

12. (Withdrawn) The method as claimed in claim 11, wherein the act of forming a barrier layer on the first surface of the elastomeric stamp comprises anisotropically depositing a metal on the first surface of the elastomeric stamp.

13. (Withdrawn) The method as claimed in claim 12, further

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comprising the act of oxidizing the barrier layer.

14. (Withdrawn) The method as claimed in claim 11, wherein the act of forming a barrier layer on the first surface of the elastomeric stamp comprises forming a layer of polymer material on the first surface of the elastomeric stamp.

15. (Withdrawn) The method as claimed in claim 14, wherein the act of forming a layer of a polymer material on the first surface of the elastomeric stamp comprises adhering a polymer material to the first surface of the elastomeric stamp.

16. (Withdrawn) The method as claimed in claim 14, wherein the act of forming a layer of a polymer material on the first surface of the elastomeric stamp comprises depositing a precursor of the polymer material on the first surface of the elastomeric stamp; and forming the layer of the polymer material from the precursor.

17. (Withdrawn) The method as claimed in claim 16, wherein the act of forming the layer of the polymer material from the precursor is preceded by depositing a polymerization initiator on the first surface of the elastomeric stamp.

18. (Withdrawn) The method as claimed in claim 14, further comprising the acts of:

modifying the first surface of the master; and
depositing a precursor of the polymer material on the modified first surface of the master.

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19. (Withdrawn) The method as claimed in claim 11, wherein the act of forming a layer of a second material on the first surface comprises modifying a layer of the first material at the first surface.

20. (Withdrawn) The method as claimed in claim 11, further comprising the act of forming a further barrier layer on the second surface of the elastomeric stamp, the further barrier layer being impermeable to the ink.

Claim 21 (Canceled)

22. (previously presented) The elastomeric stamp of claim 1, wherein a diffusion coefficient of the ink in a material of the barrier layer is at least a decade smaller than a diffusion coefficient of the ink in the first material.

23. (previously presented) The elastomeric stamp of claim 1, wherein the first surface and the third surface form an acute angle smaller than 90°.

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EVIDENCE APPENDIX

None

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RELATED PROCEEDINGS APPENDIX

None